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REPORT NO. 7

U.S. DEPARTMENT OF AGRICULTURE

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Cotton Fiber and Processing Test Results

CROP of

1976



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 3, 1976

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1975, USDA, AMS, Cotton Division, May 1976.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1976

Discussion of Test Results

Southwestern short staple cottons tested through November 26 this season are slightly shorter and less uniform than a year earlier, according to the Cotton Division, Agricultural Marketing Service, USDA. Fibers are coarser and a little weaker than last season. Shirley Analyzer nonlint content and picker and card waste are both higher than a year earlier. Yarns spun from these samples are weaker than a year ago and have lower appearance grades. The average spinning potential yarn number is lower.

The U.S. average fiber length of medium staple samples is shorter than a year ago. Zero gage fiber strength is slightly higher. Shirley Analyzer nonlint content is lower while picker and card waste is higher. Yarns spun from these samples show slightly stronger yarn skein strength with fewer yarn imperfections. The spinning potential yarn number is a little lower than it was last year.

Medium staple samples tested from the Southeast have about the same length and uniformity as a year earlier. Fibers are coarser and a little stronger. Shirley Analyzer nonlint content is lower, while picker and card waste is higher than a year ago. Yarns spun from these samples are stronger and have higher appearance grades. Imperfections are fewer. Spinning potential is higher.

Medium staple samples tested from the South Central states are shorter than a year ago. Fibers are considerably stronger at zero gage tests than a year earlier. Shirley Analyzer nonlint content is lower, while picker and card waste is higher. Yarns spun from these samples are stronger, with fewer yarn imperfections. Spinning potential is lower.

Southwestern medium staple samples tested have about the same fiber characteristics as a year ago at this time. Picker and card waste is higher. Yarns spun from these samples are stronger. These yarns also have higher appearance grades and fewer imperfections.

Medium staple samples tested from the West have the same fiber length as a year ago. Fibers are weaker at both zero gage and 1/8" gage tests. Picker and card waste is higher than last season. Yarns spun from these samples are weaker and have lower appearance grades this season. Spinning potential number is lower.

Long staple samples from the Southeastern states show fibers to be longer and coarser than a year ago. Fiber strength is higher. Shirley Analyzer nonlint content is lower. Both picker and card waste and comber waste are lower than a year ago. Yarns spun from these samples are stronger for both carded and combed yarns. Appearance grades average slightly lower for carded yarns and higher for combed yarns. Both carded and combed yarns show fewer imperfections. Spinning potential yarn number is much higher than last season.

Long staple samples from the South Central states have the same Fibrograph length and are finer and stronger. Shirley Analyzer nonlint content and picker and card waste are both lower than last season. Comber waste, however, is higher. Yarns spun from these samples are stronger than last year. Appearance grades are lower. Imperfections are fewer. The spinning potential yarn number is lower.

American Pima samples tested through November 26 this season have longer and more uniform fibers than last season. Pima cottons are coarser and stronger than a year ago. Both picker and card waste and comber waste are lower. Yarn strength and appearance are about the same as a year earlier.

Table 1.-Cotton:

Averages of fiber and processing tests from selected gin points in the United States through November 26, 1976

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph 2.5% span		50/2.5 unif.		Mike fine- ness Zero gage		S A nonlint		P & C waste	Skein str.	Yarn quality	Imperf- actions
		No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Ibs. 22s	Ibs. Carded	Index No.	Yarn No.
Short Staple:													
Southwest	16	.99	45	4.3	89	22	3.1	5.9	101	117	14	44	
	15	.97	44	4.5	85	20	3.4	7.3	84	110	14	35	
Medium Staple:													
Southeast	25	1.08	45	4.2	84	22	4.0	6.0	98	96	27	53	
	23	1.08	46	4.7	86	23	3.2	6.2	106	101	20	55	
South Central	88	1.10	45	4.4	85	23	3.1	5.4	104	102	20	58	
	80	1.08	44	4.3	89	23	2.9	6.1	108	100	16	55	
Southwest	23	1.07	44	4.1	82	22	3.2	5.1	102	95	26	57	
	27	1.07	45	4.1	81	22	3.2	6.3	104	97	20	57	
West	35	1.12	46	4.2	93	27	2.2	5.0	126	93	23	70	
	24	1.12	45	4.1	89	25	2.3	5.5	121	90	20	67	
U.S. Average	171	1.10	45	4.3	86	23	3.1	5.4	107	98	23	59	
	154	1.08	45	4.3	87	23	2.7	6.0	109	98	18	57	
Significant difference 2/													
		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States

through November 26, 1976

1/ (continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results						
		Span	Length	Mike	Zero gage	1/8" gage	SA Non- lint	P&C Waste	Comber Waste	Yarn Quality		Imprfctns	SPY	
										Strength	Strength	Appearance		
No.		In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.
										22s	22s	Carded & Combed	Yarn	No.
Long Staple:														
Southeast														
1975	9	1.11	43	4.2	85	22	3.6	9.5	18.7	92	116	114	21	12
1976	6	1.16	45	4.4	87	26	2.8	6.2	15.8	119	140	107	20	8
South Central														
1975	5	1.12	43	4.0	88	23	3.9	9.1	17.9	107	127	108	118	20
1976	2	1.12	42	3.8	91	26	3.4	6.6	20.8	111	138	100	105	16
Array														
50's Combed Yarn														
American Pima														
Extra Long Staple:														
West														
1975	2	1.44	32	3.6	100	33	2.4	7.2	17.8	62	110	110	2	2
1976	3	1.46	29	3.8	103	34	2.5	6.0	15.9	63	110	110	2	2

Significant
Difference 2/0.02 2 0.2 2 1 0.5 0.5 0.5 4(22s) 4(22s)
2(50s) 2(50s) 5 5 2 2 31/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1975

Production Area, Classification			Fiber Test Results								Processing Test Results - Carded Yarns																
			Digital Fibrograph		Mike		Fiber Strength		Elongat'n 1/8"		S.A. Non-lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imperfect's		Spin. Potential		
No	Name & Code	Grade	Sample Number	2.5% span	Unif span	Mike	Zero Gage	1/8" Gage	Gage	Yel	Gra	Raw Stock	P & C Waste	74 tx	22s or 74 tx	8s or 27 tx	22s or 74 tx	8s or 27 tx	22s or 74 tx	8s or 27 tx	22s or 74 tx	8s or 27 tx	No	No	No	No	
SOUTHWEST AREA				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No	No	No	No	
CENTRAL TEXAS																											
BRANDON	SLM LT SP	42	30	0.91	44	3.08	84	20	6.4	3.06	3	3	8.0	250	75	6.4	5.3	120	110	22	16	29					
ITALY	SLM LT SP	42	30	0.95	43	4.03	84	20	6.0	3.02	3	4	6.8	249	74	6.4	5.2	120	100	18	15	28					
ITASCA	SLM LT SP	42	30	0.94	44	5.00	92	19	6.0	3.08	3	3	7.3	264	82	6.0	4.9	130	110	21	12	32					
WACC	LM LT SP	52 1/33	1.06	45	4.06	84	22	6.4	5.0	3	3	8.3	293	96	6.0	5.4	120	110	27	14	45						
NORTHWEST TEXAS	LOCKNEY																										
LOCKNEY	MID LT SP	32	30	0.93	47	4.08	89	21	6.1	2.02	2	4	5.9	279	87	6.3	5.7	120	120	14	10	33	6				

1/ Reduced from 42 because of bark

Table 3.—Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1975

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1975--(Continued)

Production Area, Classification		Fiber Test Results								Processing Test Results - Carded Yarns								
Sample Number		Digital Fibrograph	Fiber Strength	S.A.	Color	P & C	Strength	Elongation	Appearance Index	Imperfect's	Spin.							
No.	Grade	Staple span	Mike Zero 1/8"	Non-Lint	Raw Stock	Waste	22s or 50s	50s or 22s	50s or 22s	22s or 50s	Potential							
	Name & Code	2.5% Unif. span	Gage	Gage	Gra	Yel	27 tx	12 tx	12 tx	27 tx								
		32s	In	Pct	Rdg	Pct	Pct	No.	Pct	Lbs	Pct	No.	No.	No.	No.	No.	No.	
SOUTH CENTRAL AREA																		
ARKANSAS																		
3 DRIVER	51	35	1.07	43	3.4	85	STONENVILLE 213 23 6.6 6.1	2	2	7.6	102 33 5.5	4.2	100	80	16	12	50	
3 KEISER	41	34	1.09	42	3.6	86	DELTAPINE 16 23 7.8 2.5	2	2	6.1	111 35 6.4	4.8	100	70	17	12	67	
CSCEOLA	41	34	1.03	41	3.2	92	STONENVILLE 731N 22 5.5 3.8	1	3	8.0	92 29 5.3	3.8	80	60	28	23	43	
WYNN	31	34	1.08	45	4.2	89	DELTAPINE 16 24 8.0 3.3	1	2	6.4	109 36 6.4	4.3	100	90	15	14	54	
LOUISIANA																		
EPPS	31	35	1.14	44	4.1	92	DELTAPINE 16 25 7.6 2.2	0	2	4.9	112 37 6.9	4.8	100	70	12	12	62	
2 MID	31	35	1.14	44	4.1	92	DELTAPINE 16 25 7.6 2.2	0	2	4.9	112 37 6.9	4.8	100	70	12	12	62	
LAKE PROVIDENCE																		
2 SLM	41	35	1.11	45	4.4	91	DELTAPINE 16 24 7.6 4.0	1	2	5.6	114 38 6.4	4.8	100	80	13	10	61	
LAKE PROVIDENCE																		
2 SLM	41	34	1.07	44	5.1	90	STONENVILLE 213 23 6.0 3.2	1	2	6.0	104 32 5.4	3.8	100	80	21	13	50	
CAK RIDGE																		
2 SLM	41	34	1.09	46	5.1	94	DELTAPINE 25 23 6.6 3.3	1	2	6.1	109 35 5.6	4.2	110	90	12	11	57	
CPELOUSAS																		
2 SLM	41	34	1.10	43	4.0	80	STONENVILLE 213 22 7.8 1.9	0	2	4.8	104 34 6.7	4.9	100	80	10	10	57	
SICILY ISLAND																		
3 SLM	41	34	1.07	45	4.9	93	STONENVILLE 213 22 6.2 3.1	1	2	6.4	97 28 5.3	3.5	120	90	11	10	47	
MISSISSIPPI																		
ARCCA	2 SLM	41	34	1.07	44	4.4	95	DELTAPINE 55 23 5.9 4.6	2	2	5.5	106 34 5.4	3.8	110	90	10	5	52
GLENDORA																		
2 SLM	41	35	1.07	45	4.2	93	STONENVILLE 731N 23 5.3 2.4	1	2	6.9	103 30 5.4	3.6	100	80	13	10	47	
GREENVILLE																		
2 SLM PLUS	40	35	1.14	44	4.2	87	DELTAPINE 16 25 7.7 2.8	0	2	5.1	120 40 6.8	5.2	90	80	14	11	67	

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1975--(continued)

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns										
Sample Number	Grade	Digital Fibrograph		Fiber Strength		Elong- at'n 1/8"		S.A. Non- Lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imperfect's		
		Stple	2.5% span	Unif.	Mike	Zero Gage	Gage	Gra	Yel	No	No	Pct	No	No	Pct	No	No	Pct	No	No	Spin. Poten- tial	
No	Name & Code	32s	In	Pct	Rdg	Mosi	Gtex	Pct	Pct	Lbs	Lbs	Pct	Pct	No	Pct	No	Pct	No	No	No	No	
SOUTH CENTRAL AREA--(Continued)																						
MISSISSIPPI--(Continued)																						
4-CLLNDALE	2 LM	51	35	1.08	43	4.0	89	23	7.4	4.5	2	1	6.1	117	38	6.2	4.6	90	70	24	17	64
INDIANOLA	3 LM	51	34	1.01	45	4.2	91	23	6.0	4.4	3	2	6.3	106	33	5.7	3.9	110	80	15	13	57
LYCN	2 SLM	41	34	1.03	43	4.8	89	22	6.3	3.7	2	2	6.6	90	28	4.9	3.4	110	90	11	9	43
	3 LM	51	35	1.05	43	4.3	90	23	6.1	2.8	2	1	7.0	96	28	5.4	3.5	100	80	14	11	47
PANTHER BURN	2 SLM	41	35	1.14	43	3.8	85	23	7.7	3.3	1	1	5.7	116	38	6.3	5.1	90	70	22	17	64
SCOTT	3 SLM	41	35	1.11	44	4.0	84	25	7.7	2.9	2	1	6.1	121	39	6.6	4.7	100	80	16	14	69
TRIBBETT	2 SLM	41	34	1.06	45	4.7	92	22	4.9	2.9	2	3	8.3	99	32	5.1	3.5	110	90	11	8	51
WATER VALLEY	2 SLM	41	33	1.00	42	3.9	85	22	7.6	2.9	1	2	6.4	95	28	5.9	4.0	100	70	18	13	42
MISSOURI																						
BELL CITY	1 MID	31	34	1.07	41	3.3	90	23	6.6	2.0	0	2	5.3	110	36	6.4	4.4	90	60	21	20	56
	2 SLM	41	34	1.04	42	3.6	86	22	6.5	2.7	2	2	5.9	103	31	6.3	4.4	90	70	24	18	52
HAYTI	2 SLM	41	35	1.10	45	4.0	85	23	6.4	2.0	1	2	5.8	108	34	6.0	4.2	100	80	11	11	60
TENNESSEE																						
BRADEN	2 SLM	41	33	1.04	44	4.0	86	23	8.0	2.6	1	2	5.0	107	34	6.3	4.5	100	90	12	8	52
CYERSBURG	1 SLM	41	34	1.06	45	4.3	85	21	6.6	2.5	1	2	5.3	103	32	5.9	4.0	100	80	18	14	50

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1975--(continued)

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns											
Sample Number	Grade	Digital Fibrograph	Fiber Strength	S.A.	Color Raw Stock	P & C	Strength	Elongation	Appearance Index	Imperfect's	Spin. Poten- tial												
No.	Name & Code	Stple span	Mike Zero Gage	Non- Lint	Gra	Yel	22s or 50s or 12 tx	50s or 12 tx	22s or 50s or 12 tx	22s or 50s or 12 tx	No												
32s	In	Pct	Rds	Mpsi	G/tex	Pct	Pct	Pct	Lbs	Pct	No												
SOUTHWEST AREA																							
CENTRAL TEXAS																							
AQUILLA	BCWIE	2.5%	Mike	1/8"	Elon- gat'n 1/8"	S.A.	Color Raw Stock	P & C	Strength	Elongation	Appearance Index	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT	100 PERCENT		
3 LM	LT SP	52 1/31	1.00	43	3.8	88	21	6.2	4.5	3	3	8.9	80	24	5.0	3.4	90	70	26	20	38		
NAVASOTA	SLM	35	1.11	43	3.7	83	24	7.3	2.8	1	1	5.8	112	37	6.5	4.9	90	70	20	15	63		
WEST AREA																							
ARIZONA	BCWIE	1 MID LT	SP	35	1.06	42	3.7	83	22	7.3	2.4	1	4	5.8	95	29	6.4	4.4	90	70	24	21	46
CASA GRANDE	SLM	36	1.14	44	4.7	82	22	7.9	2.8	1	3	5.8	112	37	6.3	4.8	110	90	14	9	62		
ELCY	SLM	35	1.06	42	4.1	86	22	6.6	2.2	2	3	5.2	97	29	5.5	3.6	100	70	9	8	49		
GILA BEND	1 MID	34	1.03	42	5.0	87	22	5.9	1.5	2	4	6.0	85	25	4.8	3.5	100	70	12	12	36		
CALIFORNIA AREA																							
ARVIN	2 SLM	36	1.15	45	3.9	91	25	6.3	2.2	2	3	4.5	124	43	6.1	4.6	80	70	21	14	75		
BAKERSFIELD	2 SLM	35	1.11	45	4.0	92	25	6.6	1.3	1	2	5.6	123	42	6.0	4.4	80	70	24	17	72		
BAKERSFIELD	2 SLM	35	1.11	45	3.4	90	26	6.5	2.4	1	3	5.6	125	43	6.2	4.7	80	60	24	18	73		
BLITZENWILLOW	2 MID	36	1.13	46	4.0	89	26	6.4	1.4	0	2	4.5	132	45	6.4	4.9	100	80	16	12	78		
FIVE POINTS	1 SLM PLUS	36	1.10	46	3.8	94	29	6.5	1.8	0	2	3.4	147	53	6.4	5.2	90	80	21	15	87		
LCST HILLS	1 SLM PLUS	40	36	1.11	45	3.9	95	27	6.3	2.2	0	2	5.4	139	50	6.3	4.8	90	70	19	17	77	

1/ Reduced from 1.0 because of bark

Table 4--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1975

* Comber Waste and Combed Yarn Data

Table 5 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1975

Production Area, Classification & Sample Number		Fiber Test Results						Processing Test Results - Combed Yarns					
No	Grade	Array Length	Fiber Strength	S.A.	Color	Strength	Elongation	Appearance Index	Imperfect's				
		UQL	CV	Mike Zero Gage	Raw Stock Non-Lint Gra Yel	P & C Waste	50s or 80s 12 tx	50s or 80s 12 tx	50s or 80s 12 tx	50s or 80s 12 tx	50s or 80s 12 tx	No	No
32s	32s	In	Pct	Ridge	Mpsi	G/tex	Pct	No	No	Pct	Pct	No	No
WEST AREA													
ARIZONA													
SAFFORD	3	44	1.49	28	4.0	104	PIMA S-5 34	7.5	4.6	4	6	6.1	16.3 PERCENT 33
WEST TEXAS													
EL PASO	3	44	1.44	30	3.5	105	PIMA S-4 33	7.5	1.9	4	6	6.2	85 PERCENT 32
TORNILLO	3	46	1.45	29	4.0	101	PIMA S-5 34	7.7	1.1	4	5	5.6	100 PERCENT 33